

We hereby claim the following inventions:

1. A signals intelligence analysis method, comprising the steps of:  
storing a library of iconic representations of solution fragments in a memory;  
placing said iconic representations in a graphical user interface;  
connecting said iconic representations with one or more data pathways to graphically define flow of data between the solution fragments and to represent a solution;  
converting said iconic representations and said one or more data pathways displayed in said graphical user interface into a behavioral representation of said solution; and  
using said behavioral representation to configure a reconfigurable platform.
2. The method of claim 1, wherein at least one of said one or more data pathways includes event trigger information.
3. The method of claim 1, wherein said step of converting further comprises the steps of preparing, based on said iconic representations and said one or more data pathways, a high-level database corresponding to said solution; and  
translating said database into said behavioral representation.
4. The method of claim 1, wherein said behavioral representation is in RTL format.
5. The method of claim 1, further comprising the step of combining said behavioral representation with one or more additional behavioral representations of one or more additional solutions to prepare a single monolithic block of code.
6. The method of claim 5, further comprising the step of supplying said block of code to a compiler for said reconfigurable platform, said compiler preparing a binary download file based on said block of code, wherein said download file is target specific to said reconfigurable platform.
7. The method of claim 6, wherein said step of using causes said reconfigurable platform to perform a solution in parallel hardware.
8. The method of claim 6, wherein said reconfigurable platform is remote from said memory.
9. The method of claim 8, wherein said step of converting occurs at a first host workstation, and wherein a second host workstation of said reconfigurable platform includes replicate hardware of said first host workstation.

10. The method of claim 1, wherein said behavioral representation is a behavioral model of said solution.
11. The method of claim 1, wherein said solution fragments are used for encryption or decryption of data.
12. The method of claim 1, wherein said solution fragments are used for detecting patterns in images.
13. A signals intelligence analysis system, comprising:
  - a reconfigurable hardware computing platform, said platform configured to execute a signals intelligence analysis solution;
  - a front end configured to receive input;
  - a data storage medium, communicatively coupled to said front end, and configured to buffer said input, wherein said front end is configured to synchronously pass said input to said reconfigurable hardware computing platform at a frequency based on a complexity of said solution.
14. The system of claim 13, wherein said front end receives said input in real time.
15. The system of claim 14, wherein said front end is configured to synchronously pass said input to said reconfigurable hardware at a limiting frequency of the most complex solution currently loaded into said hardware.
16. The system of claim 13, wherein said reconfigurable hardware platform is configured to execute using parallel circuitry.
17. The system of claim 13, wherein said front end is an analog front end, and includes a plurality of ports communicatively connected to a plurality of reconfigurable hardware computing platforms.
18. The system of claim 17, wherein each of plurality of reconfigurable hardware computing platforms communicatively connected to said plurality of ports executes a signals intelligence analysis solution.
19. The system of claim 13, wherein said reconfigurable hardware computing platform includes a host computer and a gate array.
20. A signals intelligence analysis solution development system, comprising:
  - a computer having a display;

one or more memories storing computer-executable instructions that cause said computer to perform the following steps:

receive a user request to display a plurality of icons related by one or more data pathways and event triggers;

generate a high-level database based on said icons, one or more pathways and event triggers; and

supply said database to a behavior generator, wherein said behavior generator translates said database into behavioral code.

21. The system of claim 20, wherein said behavioral code is in Register Transfer Logic format.

22. The system of claim 20, wherein said behavioral code lacks pre-defined input/output elements to allow downstream combination with other solutions.

23. The system of claim 20, further comprising a solution mixer configured to receive a plurality of sections of behavioral code, each section corresponding to a solution, and to restructure said plurality of sections of behavioral code into a single monolithic block of code.

24. The system of claim 23, wherein said solution mixer creates one or more input/output elements for said solutions.

25. The system of claim 24, wherein said input/output elements include computer code for communicating with a target reconfigurable hardware computing platform.

26. The system of claim 24, wherein said input/output elements include computer code for communicating with an analog front end.

27. The system of claim 23, wherein said solution mixer creates one or more data pipelines between said solutions.

28. The system of claim 23, wherein said solution mixer adds additional code for preventing unauthorized execution.

29. The system of claim 23, further comprising a reconfigurable hardware computing platform, wherein said monolithic block of code is used to configure said reconfigurable hardware computing platform to execute a solution based on said block of code.